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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,631	05/26/2005	Pekka Hanniala	6009-4745	9251
27123	7590	10/22/2007		
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER MCGUTHRY BANKS, TIMA MICHELE	
			ART UNIT	PAPER NUMBER
			1793	
			NOTIFICATION DATE	DELIVERY MODE
			10/22/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com
Shopkins@Morganfinnegan.com
jmedina@Morganfinnegan.com

Office Action Summary

Application No.

10/536,631

Applicant(s)

HANNIALA ET AL.

Examiner

Tima M. McGuthry-Banks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/26/2005</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Status of Claims

Claims 1-11 are present for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5, 10, and 11 are provisionally rejected under 35 U.S.C. 102(e) as being anticipated by copending Application No. 10/513,164 which has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e), if published under 35 U.S.C. 122(b) or patented. This provisional rejection under 35 U.S.C. 102(e) is based upon a presumption of future publication or patenting of the copending application.

This provisional rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131. This rejection may not be overcome by the

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filing of a terminal disclaimer. See *In re Bartfeld*, 925 F.2d 1450, 17 USPQ2d 1885 (Fed. Cir. 1991).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

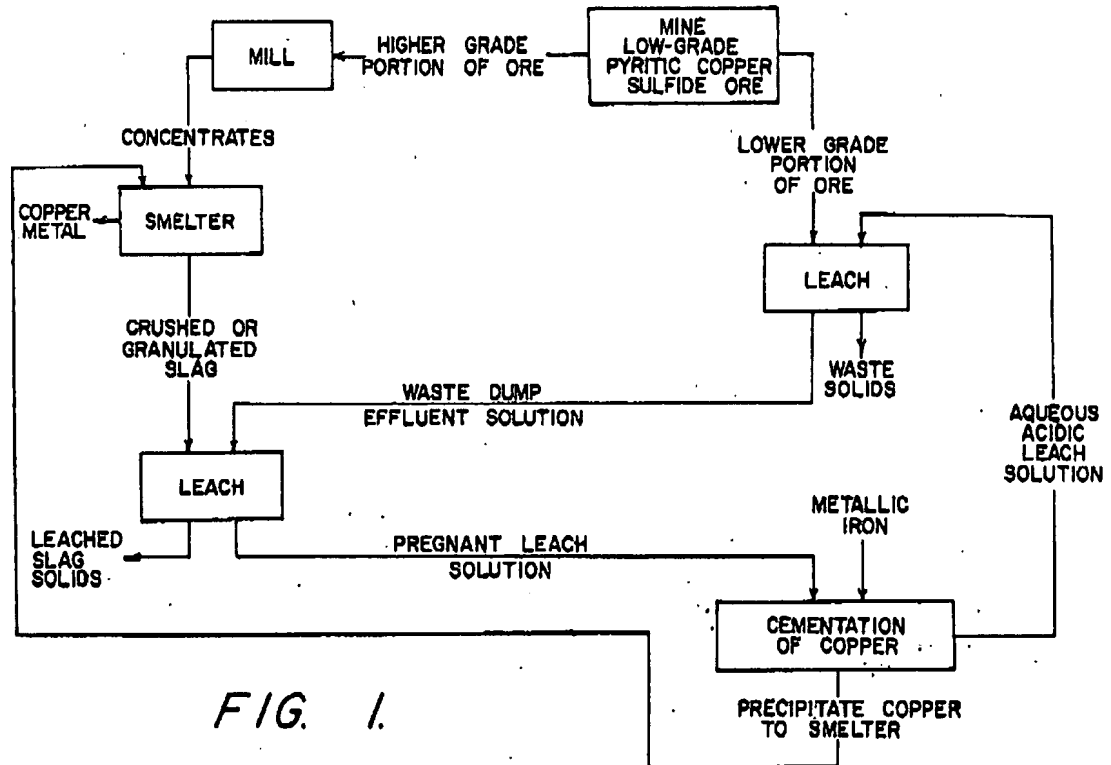
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 1-4, 7, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schlitt, III et al (US 4,152,142) in view of CA 2,363,969.

Schlitt, III et al teaches recovering copper as shown in Figure 1 below.



Regarding Claim 2, the slag is crushed or granulated. Regarding Claims 3 and 4, either sulfuric acid or ammonia is used for leaching (from US 3,224,873, which is incorporated by reference). Regarding Claim 9, copper is recovered from aqueous solutions using liquid-liquid ion exchange followed by electrolysis (from US '873). Regarding Claim 10, the precipitated copper is returned to the smelter. However, Schlitt, III et al does not specifically teach a suspension or flash furnace as in Claims 1 and 11 or using hydroxide precipitation as in Claim 7.

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Regarding Claims 1 and 11, CA '969 teaches recovering metal from smelter slag. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the smelting furnace in Schlitt, III et al would be a flash furnace, since CA '969 teaches oxygen flash smelting of copper concentrates results in low energy consumption, strong valuable SO₂ gas production, and high productivity (page 6, lines 2-14).

Regarding Claim 7, CA '969 teaches recovering copper values from solutions with magnesia or soda ash to precipitate copper as intermediate hydroxide or carbonate products (page 19, line 22 to page 20, line 2). CA '969 compliments the teachings of Schlitt, III et al by teaching that these precipitation agents are recognized by those of ordinary skill in the art for precipitating copper from leach solutions. See CA '969 page 19, lines 20 and 21.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schlitt, III et al in view of CA '969 as applied to Claim 1 above, and further in view of Booth (US 3,928,551).

Schlitt, III et al in view of CA '969 disclose the invention substantially as claimed. However, Schlitt, III et al in view of CA '969 do not disclose leaching in a chloridic solution as claimed. Booth teaches leaching ores, concentrates, roasted and calcined products, metallurgical slags and mattes and residues that contain U, Co, rare metals, Cu, Ni, Zn, Mn and others (column 10, lines 21-26). Booth compliments the teaching of Schlitt, III et al in view of CA '969 by teaching that various types of acids such as sulfuric acid and hydrochloric acid are used these types of leaching operations (lines 33-36). Furthermore, Schlitt, III et al in view of CA '969 and Booth identify that a variety of acidic solutions are known in the art and are suitable equivalents in the leaching of copper from metallurgical copper-containing slag.

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Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schlitt, III et al in view of CA '969 as applied to claim 1 above, and further in view of Rosar et al (US 4,034,063).

Schlitt, III et al in view of CA '969 disclose the invention substantially as claimed. However, Schlitt, III et al in view of CA '969 do not disclose leaching in a bacteria solution as in Claim 6. Rosar et al teaches leaching copper-containing concentrates with sulfuric acid (column 2, lines 32-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use bacteria in the leach solution as taught by Rosar et al, since the presence of chemosynthetic autotrophic bacteria in the leach solutions or within the dumps promotes and accelerates oxidation of iron pyrite to ferric sulfate and sulfuric acid and the oxidation of copper sulfides to copper sulfate. Oxidation rates are known to be accelerated by as much as 2000 to 1 for both pyrites and copper sulfides (column 3, lines 12-20).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schlitt, III et al in view of CA '969 as applied to Claim 1 above, and further in view of Gabb et al (US 5,616,168).

Schlitt, III et al in view of CA '969 disclose the invention substantially as claimed. However, Schlitt, III et al in view of CA '969 do not disclose sulfide precipitation as claimed. Gabb et al teaches hydrometallurgically processing impurity streams generated during the pyrometallurgy of copper. Gabb et al complements the teachings of Schlitt, III et al in view of CA '969 by teaching that hydroxides and sulfides are used to precipitate copper in leach solutions (Gabb et al, column 4, lines 18-23). Furthermore, both Schlitt, III et al in view of CA '969 and Gabb et al identify that a variety of precipitation agents are known in the art and are suitable equivalents for precipitating copper from acidic leach solutions.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 5, 10 and 11 are directed to an invention not patentably distinct from claims 1, 3, and 6-11 of commonly assigned 10/513,164. Specifically, 10/513,164 claims refining precious metal (in which the presently claimed copper is included) in a suspension furnace, treating the slag produced by the furnace to produce matte and slag, and hydrometallurgically processing the matte. The precipitate formed in the hydrometallurgical treatment is fed back to the smelting furnace. This is not patentably distinct from the presently claimed invention of recovering copper, since the copper is a precious metal, or leaching at least part of the slag.

Claims 1-3, 5, 10, and 11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, and 6-11 of copending Application No. 10/513,164. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copper is a precious metal and at least part of the

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slag is treated with hydrometallurgy. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the refining process of '164 would be applicable to the claimed copper with expected success, since the process of '164 is operable for any precious metal.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. DE 2348005 teaches leaching slag with aqueous NH_4CO_3 (abstract). Mackiw et al (US 2,693,405) teaches separating copper values from an ammoniacal solution. Anderson et al (US 4,552,632) teaches extracting copper content in sulfide-containing materials with iron (III) chloride and copper (II) chloride (abstract). Sukla et al in BioMetals teaches leaching copper converter slag with *Aspergillus niger* culture with hydrochloric acid (abstract, page 169). Klein et al (US 3,632,308) teaches recovering metal values from slag by grinding and agitating with sulfuric acid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tima M. McGuthry-Banks whose telephone number is (571) 272-2744. The examiner can normally be reached on M-F 7:00 am - 3:30 pm.

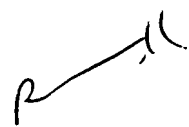
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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